U.S. Department of Transportation
Federal Transit Administration

SABINO CANYON

Coronado National Forest

Planning Project Proposal

February 16, 2007

Alternative Transportation in the Parks and Public Lands Program

Project Proposal for Fiscal Year 2007 Funds – Planning Project

BASIC PROJECT INFORMATION			
Project Name **SABINO CANYON Transportation Analysis and Feasibility Study.** This project involves transportation analysis and feasibility study to evaluate the best transportation system for visitors to and throughout Sabino Canyon. It also includes public collaboration, recreation planning, and environmental education planning to assist in determining visitor needs for public transportation.			
Proposed Funding Recipient: **USFS – Coronado National Forest**			
Public land unit(s) involved: **Coronado National Forest** **Santa Catalina Ranger District** **Sabino Canyon Recreation Area**		Location of Project City: **Tucson** County:**Pima County** State: **Arizona** Congressional District: **08**	
Federal Land Management Agency managing the above unit(s): ☐ Bureau of Land Management ☐ Bureau of Reclamation ☐ Fish and Wildlife Service **X Forest Service** ☐ National Park Service		Type of Planning Project: (Implementation projects, please use the alternate form) **X Planning**	
☐ Proposal is to plan for a possible new alternative transportation system where none currently exists. X Proposal is to plan for a possible expansion or enhancement of an existing alternative transportation system.			
ATPPL Funding Requested during FY 2007 **$185,000**		**Total** Cost of Planning Project at Completion (All sources) **$220,000**	
Were you awarded FY 2006 ATPPL funds? ☐ Yes **X No** If answer "Yes," please provide amount awarded: $			
Do you plan to request additional ATPPL funds in future years? **X Yes** ☐ No (Note: If you wish to compete for future ATPPL fiscal year funds you must reapply). If answer "Yes," please specify ATPPL proposed funding levels for out years below:			
FY 2008 **$750,000**	FY 2009 $	FY 2010 $	
FY 2007 Funding Amounts from sources other than ATPPL funds? ☐ Yes ☐ No If answer "Yes," please specify funding levels per source below:			
State $	Local $	Federal (other than ATPPL) **$20,000**	Private sources **$15,000**

CONTACT PERSON	
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OTHER PROJECT SPONSORS (in addition to funding recipient)

Friends of Sabino Canyon (FOSC)
Sabino Canyon Volunteer Naturalists (SCVN)

REQUIREMENTS

N/A If a State, Tribal, or local government entity is proposing the project, the applicant has contacted the manager of the federal land unit(s) and has the consent of the Federal land management agency or agencies affected.
YES The project is consistent with the metropolitan and statewide planning process.
YES The project is consistent with agency plans.
YES The planning project will analyze all reasonable alternatives, including a non-construction option.

BASIC PROJECT DATA	
Number of Visitors (Annual): **1.3 Million**	Daily Number of Visitors (Peak season): **4,000**
Average Number of Vehicles per Day at Peak Visitation: **1,150**	
Current Road Level of Service at Peak Visitation: **vehicles currently do not access the narrow canyon roadway. Access is provided by shuttle.** (Please consult guidance where available on determining this variable. You may use observational accounts or pictures to provide an assessment of this datum for FY 2007 proposals).	
What time of the year does your land unit experience Peak Visitation? **X Spring** ☐ Summer ☐ Fall **X Winter**	
Current Carrying Capacity of Existing Roads: **Parking Capacity is 372 (vehicles/day) (64 tram trips/day)**	
What percent of that capacity is the site operating at during peak periods? **100 %**	
Current parking shortages during peak visitation: **600**	
Current Number of Persons who use the alternative transportation system (if one already exists) at peak visitation: **2,500** (average number of visitors/daily at peak)	
Estimated Annual Number of Persons who will use the alternative transportation system at project completion: **375,000 (anticipated number of riders or users/annually)**	
Average number of auto collisions with wildlife in the area? **N/A** collisions/year	

Executive Summary

This proposal is for performing a Transportation Analysis and Feasibility Study for Sabino Canyon, of the Santa Catalina Ranger District, a heavily visited recreation area immediately adjacent to Tucson, Arizona a city with a population of 1 million people.

Four significant factors combine to support the timeliness of performing a transportation analysis and feasibility study for Sabino Canyon. First, recent flood events resulted in major changes to the canyon and its transportation infrastructure. In early August of 2006, Sabino Canyon received an unusually heavy and concentrated rain event that resulted in extensive damage to the road infrastructure, recreation facilities, and trails. The USGS reported that well over 60 new major rock debris flows originated during this singular event. The historic CCC constructed low water crossings once again sustained little damage while other parts of the roadway, drainage improvements, and shuttle stops in the upper canyon were completely destroyed. It is a very important time to understand the transit needs in light of the changing canyon condition.

Secondly, Sabino Canyon has operated with a shuttle since the mid 70s when flood events then temporally closed the canyon to vehicles and lead to implementation of the mass transit system that is in place today. The most recent twenty year permit expired at the end of 2006 and the shuttle operator has agreed to sign a one year extension to continue abbreviated operation half way into the canyon while this planning process and the Federal Highways Administration (ERFO) repair begins. Sabino Canyon Tours (the current operator) is a supporter of our process to explore transportation opportunities and feasibility studies. Our vision statement is “to provide the greatest access, to the greatest number, the greatest distance into the canyon possible”. It is important to take a fresh look at transit needs in Sabino prior to issuing another 20 year permit.

Thirdly, it is anticipated that Sabino Canyon will be approved for nearly 1.3 million ERFO dollars to repair in-kind road infrastructure damaged during the floods (currently waiting for final FHWA decision as of 2-08-07). It becomes even more important and timely to receive ATPPL planning dollars to ensure the right repairs and improvements are made to correspond to appropriate transit opportunities. This project will also be an important example of the relationship between the ATPPL and ERFO programs at Sabino Canyon and perhaps set precedence and guidelines for similar facilities throughout the country.

Fourthly, the road into Sabino canyon is better described as a legacy left behind from a generation of Civilian Conservation Corp laborers who worked in the early decades of last century. As some have stated it, “we have a responsibility to be stewards of their legacy.” The existing road carved by the CCC, though damaged by the recent flood event, penetrates nearly four miles into the steep walled canyon of Sabino. This road passes over nine vented water crossings, misnamed as “bridges”, constructed by the Works Project Administration (WPA) of magnificent rock and boulders. The road and water crossings were originally constructed to provide access to a large dam structure intended to provide recreation opportunities and a steady water supply to a fledgling community of 30,000 people called Tucson. Though original plans were abandoned, the legacy of their work remains and all of the facilities are eligible for the National Register of Historic Places and form the backbone of the transportation infrastructure in Sabino. Carefully integrating them into the future access to Sabino requires careful study and evaluation to ensure the legacy is protected for the next 100 years.

This proposal is for $185,000 from the ATPPL program to perform planning and technical analysis to develop a transportation analysis and feasibility study within Sabino Canyon. Major goals of this project are to: 1) Explore opportunities for an environmentally sound and cost effective transportation system that meets current demand and will provide for future demand, 2) Evaluate relationships between the transportation systems and visitors/recreationists, and evaluate them against the impact on natural resources, 4) update parking, transit, and visitor counts, and explore carrying capacities, 5) consider operational strategies and potential transportation partners .

Contributing Partners and the Forest Service will provide $35,000 to perform public collaboration, environmental education planning and recreation planning. Goals for this part of the project are to: 1) involve the public with long term planning goals and objectives, 2) Develop conceptual plans for a transportation system and associated facilities that consider outdoor environmental education and other special event recreational uses, and 3) Specifically the Sabino Canyon Volunteer Naturalists (SCVN) will contribute expertise to plan for environmental education program needs and the Friends of Sabino Canyon (FOSC) will contribute funds and expertise for public collaboration and recreation planning. Additionally, two local benefactors have pledged several hundred thousand dollars to restore facilities in Sabino as determined through the planning studies.

Project Description

ATPPL funding would provide for:

Transportation Analysis and Feasibility Study ($185,000)

Transportation Analysis would:

Evaluate basic transit operations and identify opportunities for expanded visitor service in the canyon such as: daily service for Sabino Canyon Volunteer Naturalists (SCVN) and other environmental education programs; modified seasonal service schedules for winter visitors; intermittent service from the major parking lot(s) to Rattlesnake (stop 1) for day use picnickers, daily exercisers, and special events; intermittent service from Anderson Dam (stop 8) to upper reaches of the canyon (old stop 9); and special event access such as the annual “Music in the Canyon” celebration;

Analyze types of visitors and shuttle ridership such as: winter visitors, hikers, walkers, daily exercisers, bicycle riders, picnickers, school groups, volunteer groups, to determine use and frequency patterns;

Evaluate potential shuttle service from nearby overflow parking areas (nearby schools and shooting range), as well as nearby commercial center parking (Safeway center at Tanque Verde and Sabino Canyon Roads) as overflow opportunities.

Evaluate bridge geometry for operational conditions such as current safety standards, and historic issues and values affecting future modification;

Study and make recommendations regarding the current parking lot configuration, capacity, and ingress/egress and review with Pima County DOT for expansion opportunities;

Evaluates conflicts and opportunities due to mixed use of the road system by pedestrians, bicyclists, administrative vehicles, school group vehicles, and shuttle riders in the canyon.

Feasibility Study (including operational analysis and transportation partners study) would:

Evaluate management options, discusses possible funding sources for operating costs and new vehicle acquisition, and make recommendations for vehicle types;

Evaluate and recommend management options such as public owned and operated, public owned and contracted for management, contactor provided service, and concession operated;

Evaluate current integrated transportation technologies, vehicle types (heavy and medium duty, open air shuttles, cut-away bus types, carts, etc), and fuel sources (CNG, diesel, gas).;

Evaluate other vehicle considerations such safety/ regulatory requirements, noise, disability access, section 3039 guidelines, etc.;

Explore ITS traveler information along the canyon to determine best communications for emergency flood evacuation, general communication, medical emergencies, weather conditions, etc.;

Develop a Transportation “Partners” study to identify local opportunities (review the proposed Mt. Lemmon Shuttle Study performed by Pima County DOT and explore opportunities with Suntran and other local transit providers to provide access to Sabino Canyon);

Forest Service and Partner funding would provide for:

Public Collaboration and Sabino Canyon Recreation Concept Plan Update ($35,000)
Public collaboration would:

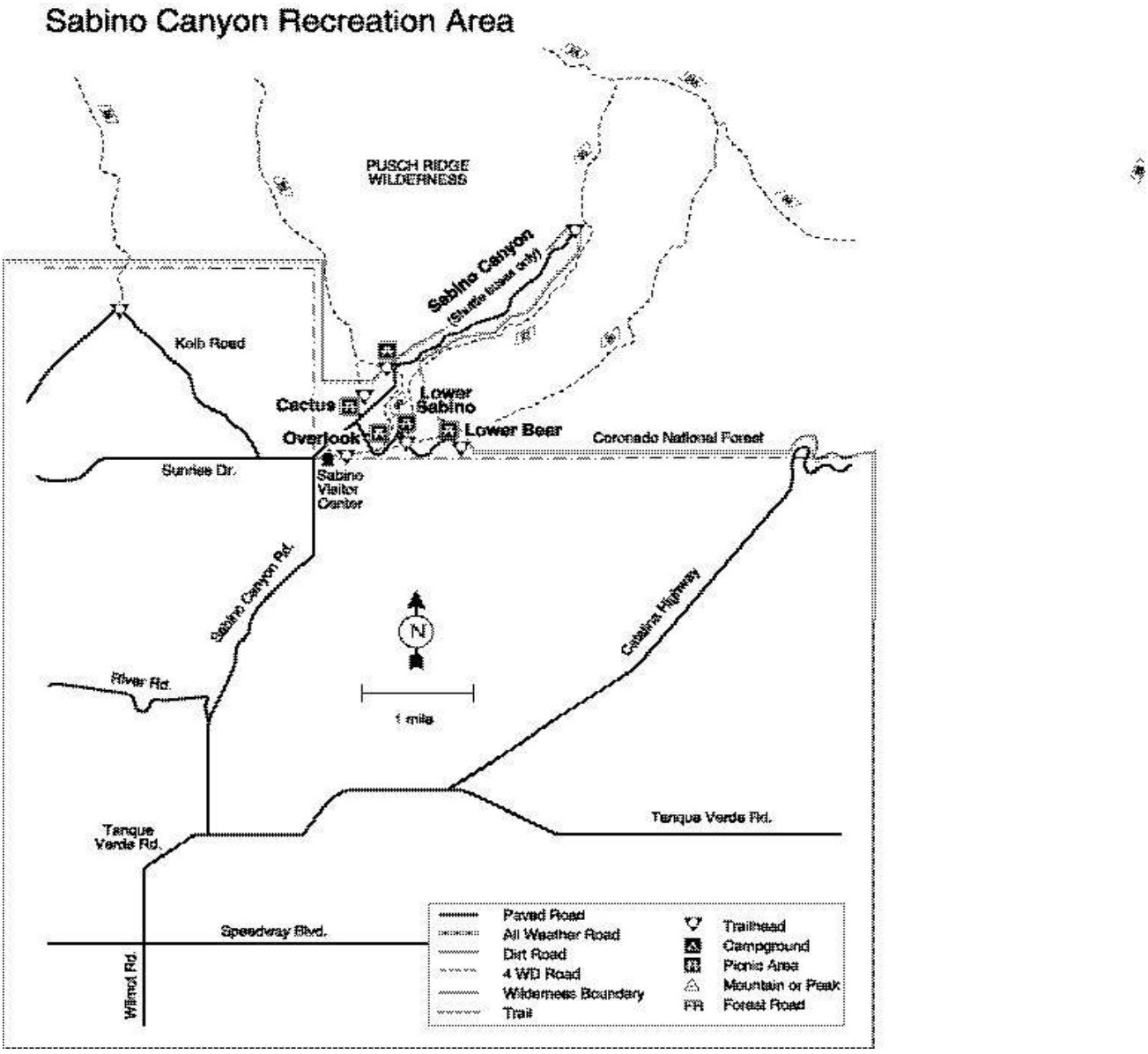
Identify and evaluate public perception of transportation, recreation and environmental education needs to meet an ever growing population in Tucson;

Assist in evaluating opportunities for expanded Outdoor Environmental Education programs (through SCVN, FOSC, Forest Service and other partners) and project future visitation.

Sabino Canyon Recreation Concept Plan Update would:

Review history of shuttle operations, access in the canyon, and previous recreation and educational planning documents.

Update the Sabino Canyon Recreation Concept plan generated in 1993 to include proposed conceptual plans for barrier free shuttle stops, outdoor environmental education stations, renovated restrooms, picnic facilities, and potential amphitheatre sites, and additional shuttle stops based on environmental education opportunities established through public collaboration.



Alternative Transportation in the Parks and Public Lands
Planning Evaluation Criteria

(There are separate evaluation factors for implementation projects. Use the implementation project proposal template for implementation projects.)

Criteria	Points	Weight
1. Demonstration of Need		50%
a. Visitor mobility & experience	(1-5)	
b. Environmental condition as result of existing transportation system	(1-5)	
2. Methodology for Assessing: Visitor Mobility & Experience Benefits of Project		15%
a. Reduced traffic congestion	(1-5)	
b. Enhanced visitor mobility, accessibility, and safety	(1-5)	
c. Improved visitor education, recreation, and health benefits	(1-5)	
3. Methodology for Assessing: Environmental Benefits of Project		15%
a. Protection of sensitive natural, cultural, and historical resources	(1-5)	
b. Reduced pollution	(1-5)	
4. Methodology for Assessing: Operational Efficiency and Financial Sustainability of Alternatives		20%
a. Effectiveness in meeting management goals	(1-5)	
b. Financial plan and cost effectiveness	(1-5)	
c. Cost effectiveness	(1-5)	
d. Partnerships and funding from other sources	(1-5)	

Planning Justification
Your responses to these questions must total no more than eight pages.

1. Demonstration of Need

a. Visitor mobility and experience: Describe the site's current and/or anticipated transportation problem or opportunity for improvement. You should include information on issues such as traffic congestion, traffic delays, parking shortages, difficulty in accessing destinations, safety issues, lack of access for persons with disabilities, lack of access for individuals with lower incomes or without cars, and visitor frustration. Please cite reports, plans, studies, and other documentation to support your description.

Sabino Canyon visitor demands have drastically changed over the last 50 years as Tucson population has grown from 100,000 to 1 million people. Recreational use, if not managed could change elements within the ecosystem and natural environment substantially as the city continues to grow even more. Sabino Canyon receives more than 1.3M visitors each year with an annual average of more than 200,000 utilizing a 25 year old shuttle system. The shuttle operates on historic roads and vented low water crossings constructed during the 1930s. Other facilities utilized by shuttle riders and canyon visitors are also antiquated and thus were not constructed to support the existing volume of visitors and uses in the canyon.

Tucson's population surpassed one million people this past summer all of whom live within a short 30 minute drive to Sabino Canyon. Tucson continues to see strong growth in all sectors of the economy and the metropolitan population growth and a burgeoning tourism industry have made Sabino Canyon a popular destination with the existing transportation system being an attraction itself. The resultant overcrowding, conflicting uses, resource degradation, and facility infrastructure failures are

taxing the capability of management to provide recreation experiences and sustain the resources. This planning project is critical to managing and monitoring the protection of resources, to planning transportation improvements, and meeting public demands presently and into the future.

Further compounding the issue associated with outdated facilities and increased visitor numbers, Sabino Canyon recently experienced an unprecedented flood event that significantly damaged infrastructure and permanently altered the flow patterns within the canyon. Sabino Canyon received three days of consistent rain on July 30 through August 1, of 2006. During this rain event over 60 new rock debris flows occurred in the canyon. Though the canyon has had several flood events in recent years and substantial ERFO repair work, this event was uniquely different in the extent of rock debris alteration and damage done to the transportation infrastructure. Several vented crossings and culverts were destroyed by the flooding, and currently the shuttle is only able to travel two miles up the canyon to a modified turnaround. The remaining two miles of the canyon have been cleared, but little turn-around opportunity exists using traditional vehicle configuration. Studying the most efficient and cost effective access is part of this opportunity now.

The existing 20 year shuttle permit expired in 2006 and Sabino Canyon Tours, the shuttle provider, has agreed to provide extended operation through January, 2008. This provides an important opportunity to explore opportunities indicated in the transportation study prior to issuing another 20 year permit. The shuttles are antiquated and complaints of noise from the operator's public address system and the smell of diesel engine exhaust are common. Their age and appearance reflect even deeper concerns about meeting current safety standards for passengers and qualifications of operators.

Currently the SCVN conduct environmental education programs for about 100 children daily in the canyon. The programs are currently held at Lower Sabino Canyon, Cactus picnic area, and Rattlesnake picnic area. On a typical day, 10 to 20 cars will transport the children into one of these three outdoor study areas. The outcome of the public collaboration and recreation study will be to determine the expanded opportunities available to utilizing more of the canyon for outdoor classroom. It would also be advantageous to incorporate daily access by the SCVN into a shuttle provided opportunity determined by the transportation analysis.

The Sabino canyon parking lot currently accommodates 372 vehicles. It is common during the peak season months of February through April, for the parking lot to be full on weekends. Many of the visits to the canyon are of short duration, less than four hours total, so the parking lot though full, turns over many times throughout the day. On the busiest weekends, it is not uncommon to turn away several hundred vehicles due to lack of parking space. The parking lot can not be expanded due to highly sensitive and valued Native American cultural sites that exist surrounding the parking lot.

b. Environmental condition as a result of the existing transportation system: Describe the site's current or anticipated problem or opportunity for improvement of the environment in this area. You should include information on current or anticipated problems such as air pollution, noise pollution, run-off, water quality, harm to vegetation and wildlife, and other impacts or stressors on natural, scenic, cultural and/or historic resources caused by the existing transportation system. Please cite documentation in agency plans, studies, reports and other documentation that will help to support your description.

Noise pollution from audio system and diesel engine rattle and fumes are the number one complaint of visitors who are passed by the shuttles. The study will evaluate new technologies for equipment including fuel efficiency, and modern public address systems. The existing shuttles have been referred to as "civil war vintage of park benches welded on a flatbed truck". Evaluating modern equipment will also help the Forest make decisions for equipment that meets better visual criteria for the shuttles.

There are some mixed use conflicts occurring in the canyon during busy times. The canyon currently allows bicycle riders only when the shuttle is not operating. Conflicts between fast riding bike riders and shuttles, particularly at the narrow "bridges", caused accidents in the past. Even pedestrians complain of the fast speed of bikes during sanctioned operating times. As a result bicycles are not permitted two days a week to reduce conflicts between pedestrians and bike riders. A careful assessment of multiple use paths or mixed use study could provide insight to facility design or additional operational and management direction for disparate users.

Historic vented low water crossings have been misnamed "bridges". These historic structures constructed in the 1930s by the CCC and WPA programs are both a fantastic cultural resource and a constraint to native fish populations. The structures are considerably narrow, have decorative rock artifices, and columns that make navigating through low water crossings a challenge to the shuttle drivers. Careful study of their intrinsic values and evaluation of potential modifications for future transportation systems is a valuable part of the study results.

Scope of Work and Methodology
The planning project's scope of work and methodology should include tasks that will assess the areas below in a thorough and professional manner. The planning project should have a scope of work and methodology at this proposal phase, although it may be refined later.

2. <u>Methodology for Assessing - Visitor Mobility & Experience Benefits of Project</u>
Please address how the planning project's scope and methodology will assess the visitor mobility & experience benefits of a potential alternative transportation system improvement in the following areas:

a. Reduced traffic congestion: This criterion includes: reduced average number of daily motorized vehicle trips during peak visitation, time lost to traffic delays, visitor frustration, and the area's current capacity of the existing transportation system.

The transportation study will take a critical look at the existing operation and correlate that with the public collaboration, environmental education planning and the recreation planning to provide recommendations for future transit operations. Such things as visitor types to the canyon, ridership of the existing shuttle, park and ride opportunities, modified shuttle routes and scheduling, overflow parking opportunities and even coordination with Pima County Transportation and recently completed transportation study for nearby Mt. Lemmon will be critically evaluated.

The transportation planning study will highlight and evaluate modifications that could be made to different shuttle routes, scheduling of shuttle routes, new off-site park and ride locations, expanded operation with a new shuttle providing access to Mt. Lemmon along with Sabino Canyon, new parking lot access, reconfiguring parking lot to eliminate traffic waiting, idling of vehicles in line, and unsafe egress conditions by utilizing new stop light at intersection and a myriad of other infrastructure recommendations.

The forest and partners will conduct a series of public meetings and small work group sessions to evaluate the future use of Sabino Canyon. These studies and public collaboration will highlight future outdoor environmental education opportunities, expanded recreation opportunities, careful understanding of the historic legacy of the CCC facilities, and barrier free access throughout the canyon as the foundation for updating the Sabino Canyon Recreation Concept Plan first created in 1993. Tucson's population continues to grow placing greater demand on the narrow, riparian, historic, and evaluating appropriate access and use needs for the next 20 years of the shuttle permit are essential components of the collaboration planning. The forest has conducted a preliminary public meeting right after the flood event. As a result of this meeting and soliciting input, 550 comments were received where nearly 50% want to see the canyon "restored as it was" including facilities, roads, tram and bridges. As SCRD works to rebuild the canyon it is ideal to incorporate and

address the needs of visitors while striving “to provide the greatest access, to the greatest number, the greatest distance into the canyon possible”.

b. **Enhanced visitor mobility, accessibility, and safety:** This criterion includes enhanced intermodal interconnectivity, improved public access to resources, and improved access for those with disabilities and low incomes, traffic safety, pedestrian/cycling safety, and safety in the case of catastrophic events (i.e., forest fires or security threats).

The studies will illustrate how more of the canyon could be accessed by visitors if short loops or other modified routes could be established to increase mobility. Additionally, administrative use of the canyon occurs most frequently near the first mile of the road near the intersection to Lowell House complex, the warehouse, the shuttle base station, and the turn-off to lower Sabino and Bear Canyons. Providing a shuttle route to stop one would enable walkers, hikers, and parents with strollers safer access beyond this first mile and right into the canyon. It would allow visitors to penetrate further into the canyon and the educational opportunities provided beyond the first mile.

A critical look at types of shuttles and operations will be part of the study to discover the best possible improvements for people with disabilities. Much of Sabino Canyon visitation is by “winter visitors” who are typically older or require additional assistance to visit the canyon. Existing shuttles have been modified to provide wheel chair access only on special request.

A part of the study will evaluate the potential of multiple use paths in the canyon. Several places in the canyon may afford the opportunity for separate paths such as a separate path for the first mile for hikers, joggers, etal. who still prefer to walk the first mile. Careful study of the historic crossings might also reveal chances to accommodate safe crossing for pedestrians and shuttles.

An evacuation strategy and emergency access have become significant factors in the operation of any transit system in Sabino Canyon since the recent flood event. The nature of the vented low water crossings means that shuttles and visitors during a flash flood event could be stranded up in the canyon. The existing shuttle operation does not provide emergency evacuation or for medical emergencies in the canyon. The transportation plan will highlight and make recommendations for these issues.

Additionally, since the field visit by the TAG group in December, we have been made aware of critical issues regarding operators CDL licensing and potential issues pertaining to minimum infrastructure standards that affect sites that receive FTA funding. We have put in a formal request to FTA to help us with some of the standards particularly affecting the vented low water crossings in the Canyon. These will also be critically evaluated during the planning project.

c. Improved visitor education, recreation, and health benefits: Describe how the Project’s scope and methodology will assess improved visitor education, recreation and health benefits?

Implementing a public collaboration process will help the agency and or partners better understand the recreation, education and even daily exercise activity needs of our visitors. Updating the Sabino Canyon Recreation Concept plan and working through a public collaboration process will help the forest understand and delineate this activity in the canyon.

The Forest Service and partners will take a critical look at the existing Environmental Education programs offered in the canyon to thousands of Tucson Unified School district children each year. It is possible that the program could be expanded to include the entire canyon and perhaps multiple stations to the upper reaches of the canyon as well. Perhaps a vision of the future might portray a brightly colored “outdoor ed. school shuttle” seen driving throughout the canyon as a separate route and schedule taking children to outdoor “classrooms” throughout the canyon daily.

Another frequent concern expressed by visitors is that the existing shuttle system incorporates a public address type system with speakers mounted high on the shuttle. The narration of the drivers can be heard up and down the canyon by hikers on trails, and picnickers near the stream. The studies will explore the possibility of using newer technology that provided individualized or low sound level interpretive messages. Perhaps new shuttles would be a type where sounds would be contained within a closed vehicle.

Transportation analysis will help us to better evaluate new concepts such as: shuttle free days where visitors would experience no noise or diesel pollution, or explore the ideas of providing shuttle access to limited locations and schedules during the slower summer season while increasing shuttle service during busier peak seasons.

As discussed previously, many of the visitors to Sabino Canyon come daily to exercise by hiking, jogging, or jogging with baby strollers. The study will study to determine if it is possible to have separate parking area for those accessing the canyon for exercise only. Especially during peak morning hours that coincide with peak seasonal visitation.

3. Methodology for Assessing - Environmental Benefits of Project

Please address how the planning project's scope and methodology will assess the environmental benefits of a potential alternative transportation system improvement in the following areas:

a. Protection of sensitive natural, cultural, and historical resources: This criterion includes energy conservation, energy efficiency, ecosystem sustainability, preservation of archeological and/or historical resources, viewshed and watershed preservation, reduction in auto-wildlife collision rates, improved habitat connectivity, ensuring that visitation does not exceed an area's ability to handle increased levels of visitation or the "carrying capacity" of the land unit, and other protection benefits where applicable.

Historical low water crossings, CCC picnic facilities, and historic trails will be carefully studied in conjunction with the transportation plan to evaluate opportunities to preserve them while meeting the challenges of mixed use paths and shuttle operation in the canyon. As the structures near 100 years old, they become even more valuable. Designing a transit system to meet their design constraints, if economically feasible, is preferred. This study will evaluate that potential.

Both the collaborative effort and the transportation analysis will give us better understanding of the environmental issues affecting riparian species. Evaluating newer shuttle systems with improved exhaust systems and fuel efficiencies could reduce impacts to the riparian setting. Studying routes, schedules and outdoor education program needs will result in potentially less vehicle activity in the canyon by providing a more carefully designed and regulated transit system. Working with surrounding overflow parking sites and park and ride centers might greatly reduce the congestion and vehicle activity located at the mouth of the canyon, as an expanded shuttle operation could be considered.

b. Reduced pollution: This criterion includes air pollution, water pollution, noise pollution, and visual pollution.

The transportation plan will highlight several significant considerations that will reduce pollution in and around Sabino Canyon such as studying: shuttle improvements with newer fuel and noise technology, "Park and ride" lots which would reduce emissions in parking lot near canyon, potential reconfiguration of ingress and egress into the main parking lot that could reduce idling times, possible reduced shuttle trips into the whole if the success of shuttle to stop one is what more visitors would choose. In another example it might be possible that scheduling limited shuttle rides from stop 8 to stop 9 would reduce emissions further up the canyon if it meets with public demand.

4. Methodology for Assessing - Operational Efficiency and Financial Sustainability

Please address how the planning project's scope and methodology will assess the operational efficiency and the financial sustainability of a potential alternative transportation system improvement in the following areas:

a. Operational efficiency: This criterion includes considerations of how a potential alternative system may/may not meet identified management goals and objectives for this site, including consideration of multiple alternatives.

The Feasibility Study will highlight management options and discuss funding sources for operating costs and new vehicle acquisition. It will also evaluate existing transportation technologies such as new types of shuttle vehicles, new technologies such as ITS systems, and explore the opportunities for expanded shuttle operation to other staging areas and perhaps even be considered in joint operation with a shuttle system to Mt. Lemmon.

The study will assist the forest in understanding the impacts to visitation if a shuttle system were not in place and the impacts if access to the canyon was substantially increased. Careful evaluation of off site park and ride opportunities will also be included.

b. Financial feasibility: This criterion includes the development of a financial plan that will incorporate a potential alternative transportation system, including the evaluation of multiple alternatives.

The entire purpose for developing a feasibility study is to describe and evaluate economic factors of operating the shuttle system into the future. The study will help the forest understand the costs of modern equipment, technology, and costs to retrofit the canyon transportation infrastructure to meet modern demands for efficiency, safety, and convenience. The study will highlight discuss management options such as continued concessionaire operation, or contractor operation, or agency operation and look at issues surrounding equipment leasing or ownership, and many other economic criteria effecting the long term success of the transit system.

c. Cost effectiveness: This criterion includes the development of an analysis of cost effectiveness considerations that includes multiple alternatives.

In addition to the items discuss in the paragraph above, the study will take a critical look at what impacts to the visitor experience and the canyon setting if a shuttle system were eliminated. Some public comment has been received to indicate a segment of the visitor use would support this type of transition for the canyon.

d. Partnerships and funding from other sources: This criterion includes planning projects that would be carried out or funded in partnership with other entities in addition to the sponsor and will receive points depending on the level of partnership. Documentation (e.g., partnership agreements, letters of partnership support, letters of confirmation of financial contribution, letters of in-kind contributions, etc.) that supports and verifies involvement of partners and level of partnership *must* accompany this proposal.

As exemplified by the turnout of local partners during the Federal Transit Authority Technical Advisory Group (TAG) field visit, Sabino Canyon has fostered a deep sense of local partnership and

ownership. Local partners will contribute to the envir educ planning and public collaboration funding as well as perform much of that planning work in their organizations.

The following is a list of attendees to the TAG field review on December 13, 2006:

Santa Catalina Volunteer Patrol
Friends of Sabino Canyon
Sabino Canyon Volunteer Naturalists
Sabino Canyon Bike Patrol
Sabino Canyon Mounted Assistance Unit
Sabino Canyon Tours, (shuttle concessionaire)
Pima Association of Governments

In addition, the Forest has partnership agreements with:

Southern Arizona Hiking Club
Arizona Trail Runners
Southern Arizona Boy Scouts of America,
Southern Arizona Rescue Association

Have expressed commitment and involvement in working on Sabino Canyon's restoration in cooperation with the ERFO restoration work.